IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Docket No.: KESSLER

In re PATENT Application of:	)
WINFRIED KESSLER et al.	) **Examiner: Leykin, Rita**
	) **Group Art Unit: 2837**
Appl. No.: 10/598,768	)
Filing Date: June 18, 2007	) **Confirmation No.: 9976**
	)
For: ACTUATOR AND METHOD FOR OPERATING AN ACTUATOR	)

BRIEF OF APPEAL

CERTIFICATION OF EFS-WEB TRANSMISSION

I hereby certify that this paper is being EFS-Web transmitted to the U.S. Patent and Trademark Office, Alexandria VA 22313-1450, on **July 23, 2009.**
Date

Henry M. Feiereisen
(Name of Registered Representative)

7-23-2009
(Signature) (Date of Signature)

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

S I R:

This is an appeal from the final rejection of claims 15, 17,18, 23-26 and 31-41 by the Primary Examiner. The Brief is being filed under the provisions of 37 C.F.R. §41.37. The amount of $540.00 to cover the requisite fee set forth in 37 C.F.R. §41.20(b)(2) is enclosed.

The Commissioner is hereby authorized to charge fees which may be required, or credit any overpayment to Deposit Account No. 06-0502.

(1) REAL PARTY IN INTEREST

The above-referenced patent application has been assigned to Siemens Aktiengesellschaft having a place of business at Wittelsbacherplatz 2, 80333 Munich, Germany, the real party in interest by virtue of an assignment recorded on June 18, 2007 at reel 019444, frame 0332.

(2) RELATED APPEALS AND INTERFERENCES

There are no and there have been no related appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

(3) STATUS OF CLAIMS

Claims 1-14, 16, 27 are cancelled, and the following claims are at issue in the appeal proceedings:

Claims 15, 17-18, 23-26, 31-41 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 6,445,961 (Melvin). (Please note: The rejection of claim 33 is found in the remarks provided on page 3 of the Final Office Action mailed 11/12/2008.)

Claims 19-22, 28-30 are objected to as dependent on rejected claims.

Thus, claims 15, 17-26 and 28-41 are the subject of this appeal.

(4) STATUS OF AMENDMENTS

No amendment under 37 C.F.R §1.116 after issuance of the Final Office Action has been filed.

A telephone interview was conducted on March 6, 2009, after issuance of the Final Office Action, to alert the Examiner to its incompleteness and to explore

technical inconsistencies in the argumentation presented by the Examiner. According to the Interview Summary of March 31, 2009 the Examiner submitted corrections to the Final Office Action. No agreement on the merits was been achieved in the telephonic interview.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

Appellant has invented an actuator 10 having an evaluation unit 16 that preprocesses state data and measurement variables that it provides to a standard controller 19 so that the standard controller 19 can query the state data and measurement variables of a combination of an actuator element 13 and sensor 12 that is non-standard, as described in paragraphs **[0006] – [0011]**, **[0016]**, **[0018] – [0020]** of appellant's specification.

The evaluation unit 16 in the actuator 10 also permits the use of, non-standard, configuration-specific bus protocols between the evaluation unit 16 and actuator elements 13 and sensors 12, while that data is conducted to and from the controller 19 by standard bus protocols, as described in paragraph **[0008]** of appellant's specification, so that protective data bus protocols can be used for particular actuator elements 13 and sensors 12, as needed.

The preprocessing provided by the evaluation unit 16 in the actuator 10 also makes routine inspections faster and easier, because the controller 19 can more readily access a diverse population of actuator elements 13 and sensors 12. **[0006]** In particular, that preprocessing enables a controller 19 to obtain more detailed data from the non-standard members of that diverse population in a simple manner. **[0011]**

The independent claims at issue are claims 15 and 25, and claims 23 and 37. The actuator 10, in accordance with the invention recited in these claims, has a plurality of sensors 12 for detecting measurement variables that represent the operating state of the actuator 10, **[0009] - [0015]**, **[0035]**. The evaluation unit 16 in these claims is connected to an actuator element and to a sensor 12 through a first

data bus 15. **[0005]**, **[0008]**, **[0020]**

In actuator claim 15, in addition to the sensor 12, actuator element 13 and evaluation unit 16 cited above, recites a second data bus 18 connecting the evaluation unit 16 to the controller 19. The controller 19 is adapted to control the actuator 10 through the evaluation unit 16 using the second data bus 18, as explained in paragraphs **[0010]** – **[0011]**, **[0018]** – **[0019]**.

Similarly, in the corresponding method claim 25, the controller 16 and the second data bus 18 are used to control the actuator 10 through the evaluation unit 16, as explained in paragraphs **[0010]** – **[0011]**, **[0018]** – **[0019]**.

In actuator claim 23, in addition to the sensor 12, actuator element 13 and evaluation unit 16 cited above, means for providing data from the first data bus 15 to the evaluation unit 16 when an operating parameter satisfies a required parameter, as explained in paragraphs **[0009]**, **[0012]** – **[0014]**, **[0020]** and **[0022]**, is also recited.

Similarly, in the corresponding method claim 37, the sensor 12 and the actuating element 13 in the actuator 10 transmit data to the evaluation unit 16 using the first data bus 15, and data is provided from the first data bus 15 to the evaluation unit 16 when an operating parameter satisfies a required parameter, as explained in paragraphs **[0009]**, **[0012]** – **[0014]**, **[0020]** and **[0022]**.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Issue 1- Are claims 15, 17-18, 23-26, and 31-41 patentable under 35 U.S.C. §102(b) over Melvin?

Issue 2- Other informality considerations.

(7) ARGUMENT

Issue 1- Are claims 15, 17-18, 23-26, and 31-41 patentable under 35 U.S.C. §102(b) over Melvin?

Does the cited controller -- microprocessor 50 in Melvin's controller 1 that executes the control processes in Melvin's controller 1 -- also execute the evaluation function that is attributed to the RAM 54 in the Final Rejection?

The Final Office Action states that " Claimed evaluation unit connected [sic] to at least one sensor and actuator presented as [sic] RAM 54 connected via bus 59 and I/O register 60" in its rejection of claims 15, 17-18, 23-26, and 31-41 under 35 U.S.C. §102(b) over Melvin. As best understood, this may be intended to assert that the evaluation unit element recited in apparatus claims 15 and 23, and the corresponding step of method claims 25 and 37, and claims dependent on them, read on the RAM 54 disclosed by Melvin.

For example, Figures 2a and 2h in Melvin disclose that the controller 1 evaluates the system characteristic (SC) during its tune-up phase, as explained in col. 7, lines 52-59; col. 8, lines 40-62; and col. 12, lines 25-57. This evaluation of the SC is a calculation that uses a magnitude of the error in a variable that is measured by a sensor in degrees centigrade, meters per second, etc., to adjust Melvin's controller to the characteristics of the system that it controls.

However, it is well known in the art that both control logic operations and calculations are performed by a controller's microprocessor. The RAM memory directly connected to that microprocessor, as RAM 54 is connected to Melvin's microprocessor 50, is used by the microprocessor for both types of work.

Melvin notes that the RAM 54 stores the results of the calculations and other operations performed by the microprocessor in col. 8, line 3, and col. 12, lines 46 and 61, for example. Thus the RAM 54 cannot be cited as the recited evaluation unit.

Therefore, the "evaluation unit" of claims 15, 23, 25 and 37, and claims dependent thereon, cannot be read on Melvin's RAM 54.

Can the recited evaluation unit be read on the microprocessor 50 in Melvin's controller 1?

As noted above, the "controller" of claims 15 and 25, and claims dependent thereon, is read on Melvin's microprocessor 50, both in the Final Office Action and also in the corrected Final Rejection. Melvin's microprocessor 50 provides both

control and evaluation functions for Melvin's controller 1. However, Melvin's microprocessor 50 cannot be both the "controller" and the "evaluation unit" that are recited in claims 15 and 25.

However, structurally, the "evaluation unit" recited in claim 15 cannot also be read on the microprocessor 50 in Melvin's controller 1. Appellant's controller is recited in claim 15 as having "a second data bus, said second data bus connecting the evaluation unit to the controller, said controller being adapted to control the actuator through the evaluation unit using the second data bus connecting the evaluation unit to the controller". Since the recited "controller" is read on the microprocessor 50, although the microprocessor 50 executes the evaluation functions that are disclosed by Melvin for Melvin's controller 1, an assertion that the recited "evaluation unit" reads on Melvin's microprocessor 50 would be structurally impossible. No data bus "connecting the evaluation unit to the controller" is possible if they are both the microprocessor 50.

Similarly, neither can appellant's step of "using the controller and the second data bus to control the actuator through the evaluation unit" in corresponding method claim 25 be read on Melvin if both the "evaluation unit" and the "controller" recited in this step are the microprocessor 50. The "controller" does not control an actuator "through" "evaluation unit" when they are both the Melvin's microprocessor 50.

Why are claims 15, 17-18, 23-26, and 31-41 patentable under 35 U.S.C. §102(b) over Melvin?

As noted above, the "evaluation unit" recited in claims 15 and 25 that advantageously preprocess variables in accordance with the claimed invention cannot be read on Melvin's RAM 54, nor on Melvin's microprocessor 50.

Furthermore, because Melvin's microprocessor executes both the evaluation and control functions disclosed in Melvin, an assertion that the controller 1 was the "evaluation unit" recited in these claims, instead of the microprocessor 50, would be equally erroneous.

Structurally, the controller 1 also cannot be the "evaluation unit" recited in claim 15 because appellant's claimed actuator is recited in claim 15 as having "a second data bus, said second data bus connecting the evaluation unit to the controller, said controller being adapted to control the actuator through the evaluation unit using the second data bus connecting the evaluation unit to the controller".

Logically, if the "evaluation unit" is read on the controller rather than on the microprocessor 50 that executes the disclosed evaluation functions in the controller 1, the assertion that the recited "controller" reads on Melvin's microprocessor 50 that executes the disclosed control functions in the controller 1 rather than also reading it Melvin's controller 1 is illogical on its face. It is obviously logically inconsistent to read Appellant's step of "using the controller and the second data bus to control the actuator through the evaluation unit" in the method claim 25 on Melvin's controller 1, for the same reason.

On the other hand, since Melvin's controller 1 provides both the evaluation and control functions disclosed by Melvin, this controller 1 cannot be not both the "controller" and the "evaluation unit" that is connected to it, as recited in claim 15. Likewise, Melvin also does not disclose "using the controller and the second data bus to control the actuator through the evaluation unit" as recited in claim 25, since there is no separate "evaluation unit" for the "controller" to work through.

Melvin also does not disclose the advantageous actuator that is recited in claims 23 and 37 and the claims dependent thereon. Neither the Final Rejection nor the corrected Final Rejection reads the "means for providing data from the first data bus to the evaluation unit when an operating parameter satisfies a required parameter" of independent claim 23 on Melvin. Nor does the Final Rejection does not read the step of "providing data from the first data bus to the evaluation unit when an operating parameter satisfies a required parameter" of independent claim 37 on Melvin. Thus the inclusion of claims 23 and 27 in this anticipation rejection, and claims dependent thereon, is unsupported. Therefore the rejection of these claims over Melvin is erroneous.

It is therefore respectfully submitted that the rejection of claims 15, 17-18,

23-26, and 31-41 as anticipated by Melvin under 35 U.S.C. §102(b). in both the Final Office Action and in the corrected pages of that Final Office Action, should be reversed.

Issue 2- Other informality considerations.

A coherent, complete, and grammatically explicit prosecution history is needed to provide the enforceable invention protection mandated by the United States Constitution for all claims in this application -- both the claims already found to be allowable and those that will be allowed in the future.

The Final Office Action is Incomplete

The Final Office Action is logically incomplete and grammatically incoherent As noted above the rejection of claims 23 and 37, and of the claims dependent thereon, by the Final Office Action is logically incomplete and grammatically incoherent. The Final Office Action does not read the "means for providing data from the first data bus to the evaluation unit when an operating parameter satisfies a required parameter" element of independent claim 23 on Melvin. The Final Rejection also does not read the corresponding step of "providing data from the first data bus to the evaluation unit when an operating parameter satisfies a required parameter" of independent claim 37 on Melvin.

As noted above, the rejection of claims in the Final Office Action also is vague and grammatically incoherent. For example, the Final Office Action states that "Claimed evaluation unit connected to [sic] at least one sensor and actuator presented as [sic] RAM 54 connected via bus 59 and I/O register 60" in its rejection of claims15, 17-18, 23-26, and 31-41 patentable under 35 U.S.C. §102(b) over Melvin.

The Interview Summary is a logically incoherent and self-evidently incomplete report of appellant's lengthy telephone Interview with the Examiner, and the corrections to the Final Office Action that are provided in the Interview

Summary render the previous Final Rejection over Melvin inoperative.

The Interview Summary includes several pages of the Final Office Action that have interlineated corrections added to them, but these corrections remove the former citation of the RAM 54 as the "evaluation unit" on Melvin and fail to read that claim element on any other specific structure disclosed by Melvin. These corrections render the rejection fatally deficient as to all rejected claims.

That is, as best understood, these corrections render the Final Rejection for anticipation by Melvin incomplete because they remove a paragraph that previously asserted that the "evaluation unit "of claim 15 read on Melvin's RAM 54 (It was "presented as" RAM.) and replace it with a description of Melvin's controller 1 that no longer, either explicitly or implicitly, alleges that the "evaluation unit" element of the claim reads on any specific structure disclosed by Melvin.

Also, as noted before, neither the controller 1 nor the microprocessor 50 can be cited as either the recited "controller" or the recited "evaluation unit" of claim 15, nor can the "using the controller and the second data bus to control the actuator through the evaluation unit" step of corresponding method claim 25 be read on them.

The Interview Summary misleading and incomplete

The several pages of the Final Office Action that were included with the Interview Summary do show that some of the concerns expressed by appellant during the telephone interview about the formal errors in the Final Office Action, were considered by the Examiner. Informal corrections of some of the informalities in Final Office Action, as to claim numbers, are shown on those attached corrected pages. Claim 33 is still omitted from the list of rejected claims, for example.

However, a comparison of those interlineated corrections with the text of the Final Office Action will show that the corrections shown therein do not document all the changes made by the Examiner in these corrected pages of the Final Rejection. Furthermore, none of the attempts made by appellant's counsel in that lengthy telephone interview to discuss further legal and technical issues that were raised by the Final Rejection of claims over Melvin are reflected in this Interview Summary.

The Interview Summary reduces the legal and technical issues that were presented by applicant's counsel to a modified restatement of our previous, terse Rule 111 Response to rejection of un-amended claims 15-18 and 25-34 as anticipated by Zitlau. That Rule 111 Response simply stated the patently obvious fact that Zitau's controller is connected directly to the actuators, rather than being connected to them through an evaluation unit -- after which the rejection over Zitlau was withdrawn.

The Interview Summary only indirectly reflects the substantive legal and technical patentability issues that we raised during this lengthy interview, and have substantially repeated in the Brief:

1) Technically, as is well-known in the art, the microprocessor 50, as the only processor in the controller 1 disclosed by Melvin, does both the control work and the evaluation work done by Melvin's controller 1. The microprocessor 50 also uses its RAM 54 for storage in all this work but, as a storage device, this RAM 54 cannot be an evaluation unit as was asserted by the Final Office Action. An evaluation unit must have a processor and Melvin's microprocessor 50 is the "control-and-evaluation" unit for Melvin's controller 1. Both the control and the evaluation functions executed in Melvin's controller 1 are executed by that microprocessor 50.

2) Therefore, legally, the recited controller and the recited evaluation unit are functionally either both the controller 1 or both the controller's microprocessor 50. However, as explained above, with reference to the patentability of claims, it follows from that functional fact that, structurally, neither the controller 1 nor controller's microprocessor 50 can be the "evaluation unit" recited in claim 15 because appellant's controller is recited in claim 15 as having "a second data bus, said second data bus connecting the evaluation unit to the controller, said controller being adapted to control the actuator through the evaluation unit using the second data bus connecting the evaluation unit to the controller". Nor can appellant's step of "using the controller and the second data bus to control the actuator through the evaluation unit" in corresponding method claim 25 be read on Melvin.

The previously amended generic claims 15 and 25 that were discussed at length in that lengthy telephone interview aren't listed at all on the Interview Summary – even though that Interview Summary does note that patentability was discussed and the Interview Summary does make substantive changes in the analysis of the prior art that was provided by the Final Office Action.

We clearly did not discuss the patentability of claims 1, 18 or 39-41: 1) The Interview Summary reports that we raised formal objections concerning 18 and 39-41. 2) Claim 1 was not mentioned at all in our telephone interview because it was cancelled in the Preliminary Amendment. – claim 1 was not relevant to the Final Rejection. Because patentability was admittedly discussed in this telephone interview, at least one of the pending independent claims should have been listed on the Interview Summary.

This misleading Interview Summary distorts the record that is provided by this application's file history. Some of the claims presently in this application have been determined to be allowable if written in independent form. However, coherent, well-reasoned Office Actions are needed to provide inventors the enforceable protection that is mandated by the United States Constitution – invention protection that is enforceable under the well-established principles of equity that govern the granting and enforcement of United States patents.

The Final Rejection and subsequent corrected Final Rejection and Interview Summary need to be withdrawn for the application's file history. The prosecution record needs to be corrected for the sake of the claims in this application that have already been found to be allowable, and others that will be found to be allowable.

CONCLUSION

Appellant has invented an actuator having an evaluation unit that preprocesses state data and measurement variables that it provides to a standard controller so that the standard controller can query the state data and measurement variables of a non-standard set of actuator elements and sensors, as described in

paragraphs **[0009] – [0011], [0016]** and **[0018] – [0020]** of appellant's specification that are cited therein. The evaluation unit also permits the use of non-standard, configuration-specific bus protocols between the evaluation unit and actuator elements and sensors, while that data is conducted to and from the controller by standard bus protocols, as described in paragraph **[0016]** and **[0018] – [0020]** of appellant's specification. This preprocessing provided by the evaluation unit in the actuator makes routine inspections faster and easier, and enables the controller to monitor and use detailed data obtained from such actuators and sensors.

As a matter of fact that is well-known in the art, the Melvin patent cited in the Final Rejection and the corrected Final Rejection discloses a "controller" but not the advantageous claimed combination of the "controller" with an "evaluation unit" that is connected to it, nor the corresponding method recited in claim 25. The anticipation rejection independent claims 23 and 37 over Melvin is also unsupported therein, because elements of these claims are not read on Melvin.

The comments made above are similarly applicable to all of the remaining claims that depend from a respective one of the four pending independent claims, which therefore share all the features thereof. It is well settled that a dependent claim which depends on an allowable parent claim shares in its allowability.

For the above stated reasons, it is respectfully submitted that the rejection of claims 15, 17-18, 23-26, and 31-41 over Melvin should be reversed.

Respectfully submitted,

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(8) CLAIMS APPENDIX

15. An actuator having an operating state, comprising:

at least one actuating element;

a plurality of sensors, said sensors being adapted to detect measurement variables when the actuator is in the operating state;

a first data bus;

an evaluation unit connected to at least one sensor of the plurality of sensors and to the actuating element by the first data bus;

a controller adapted to control the actuator; and

a second data bus, said second data bus connecting the evaluation unit to the controller, said controller being adapted to control the actuator through the evaluation unit using the second data bus connecting the evaluation unit to the controller.

17. The actuator of claim 15, further comprising a plurality of said actuating elements, said plurality of sensors and plurality of actuating elements being connected to the evaluation unit by the first data bus.

18. The actuator of claim 15, further comprising data in at least one sensor and at least one actuating element, said data being adapted to be transmitted to the evaluation unit, said data including identification data and operating parameter data.

23. An actuator having an operating state, comprising:

at least one actuating element;

a plurality of sensors, said sensors being adapted to detect measurement variables when the actuator is in the operating state;

a first data bus;

an evaluation unit connected to at least one sensor of the plurality of sensors and to the actuating element by the first data bus;

means for comparing operating parameters to required parameters; and

means for providing data from the first data bus to the evaluation unit when an operating parameter satisfies a required parameter.

24. The actuator of claim 23, further comprising means for providing a fault signal to the controller over the second data bus when an operating parameter does not satisfy a required parameter.

25. A method for operating an actuator having an evaluation unit connected to at least one sensor and to at least one actuating element via a first data bus, a controller adapted to control the actuator; and a second data bus, said second data bus being adapted to connect the controller to the actuating element, said sensor and actuating element having data representing an operating state of the actuator, said method comprising the steps of:

transmitting data from the sensor to the evaluation unit using the first data bus;

transmitting data from the actuating element to the evaluation unit using the first data bus; and

using the controller and the second data bus to control the actuator through the evaluation unit.

26. The method of claim 25, further comprising the step of controlling an actuating element using the first data bus.

31. The method of claim 29, wherein operating parameter data has been sent to the evaluation unit from a plurality of sources, and further comprising the step of processing the data transmitted to the evaluation unit using the first data bus as a function of the operating parameter data.

32. The method of claim 25, further comprising the steps of at least partially processing data transmitted from the sensors and actuating elements to the evaluation unit in the evaluation unit; and transmitting the at least partially processed data from the evaluation unit to the controller.

33. The method of claim 32, wherein the processing step includes the steps of comparing operating parameters to required parameters, and providing a fault signal to the controller over the second data bus when an operating parameter does not satisfy a required parameter.

34. The method of claim 32, wherein the processing step includes the steps of comparing operating parameters to required parameters, and providing data from the first data bus to the evaluation unit when an operating parameter satisfies a required parameter.

37. The actuator of claim 15, wherein an actuating element is adapted to be controlled using the first data bus.

38. The actuator of claim 23, wherein an actuating element is adapted to be controlled using the first data bus.

37. A method for operating an actuator having an evaluation unit connected to at least one sensor and to at least one actuating element via a first data bus, said sensor and actuating element having data representing an operating state of the actuator, said method comprising the steps of:

transmitting data from the sensor to the evaluation unit using the first data bus;

transmitting data from the actuating element to the evaluation unit using the first data bus;

comparing operating parameters to required parameters; and

providing data from the first data bus to the evaluation unit when an operating parameter satisfies a required parameter.

38. The method of claim 37, further comprising the step of providing a fault signal to the controller over the second data bus when an operating parameter does not satisfy a required parameter.

39. The actuator of claim 15, further comprising means for comparing operating parameters to required parameters; and means for providing data from the first data bus to the evaluation unit when an operating parameter satisfies a required parameter.

40. The actuator of claim 15, wherein the first and second bus have different bus protocols.

41. The actuator of claim 23, wherein the first and second bus have different bus protocols.

(9) EVIDENCE APPENDIX

NONE

(10) RELATED PROCEEDINGS APPENDIX

NONE